



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,131	01/30/2006	Nelson Luiz Ferreira Levy	APA-PT007	1349
3624 7590 05/11/2010 VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103				
EXAMINER				
WHITE, EVERETT NMN				
ART UNIT		PAPER NUMBER		
1623				
MAIL DATE		DELIVERY MODE		
05/11/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,131

Applicant(s)

LEVY ET AL.

Examiner

EVERETT WHITE

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 3-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 18, 19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date 03/23/2010.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The finality of the rejection of the last Office action is withdrawn in view of the new ground of rejection over a newly cited US patent.
2. The amendment filed July 15, 2009 has been received, entered and carefully considered. The amendment affects the instant application accordingly:
 - (A) Claim 20 is has been canceled;
 - (B) Claims 2 and 21 have been amended;
 - (C) Comments regarding Office Action have been provided drawn to:
 - (I) the traversal of the restriction require, which has been maintained;
 - (II) 103(a) rejection, rendered moot by new ground of rejection over newly cited US Patent.
3. Claims 1-19 and 21 are pending in the case. Claims 1 and 3-17 have been withdrawn from consideration as being directed to non-elected inventions.

Claim Rejections - 35 USC § 103

New Ground of Rejection

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 2 and 18, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farah (US Patent No. 4,912,049, already of record) or Iguchi et al (JP408035155 A, already of record) in view of Watanabe et al (US Patent No. 6,153,413, newly cited) or Greene (US Patent No. 3,281,951, already of record) or Beaupre et al (US Patent No. 4,995,888, already of record).

Applicants claim a process for obtaining cellulose membrane comprising: a) heating a solution containing 0.2 to 12% of glucose mass and 0.1 to 7% of yeast extract in water that was filtered through sand and activated charcoal in a sanitary stainless steel mixer with a steam heated jacket at a temperature of 125°C for 15 minutes, for sterilization purposes;

b) cooling the solution till it reaches a temperature between 5 and 30°C;

c) adding 0.5 to 5% of ethanol and 2 to 50% of an inoculum of *Acetobacter xylinum*, followed by agitation of the solution until it is homogenized;

d) transferring the solution to covered fermentation trays and allowing the solution to rest for 16 to 240 hours, at a temperature between 5 and 30°C;

e) collecting cellulose wet sheets that are thus formed, varying from 0.25 to 200 mm in thickness; and

f) forwarding the cellulose wet sheets to a whirlpool tank where they are purified and whitened according to the following sequence: rinsing, washing with sodium hydroxide i to 5%, rinsing, washing with 1 to 5% sodium lauryl sulfate and final rinsing; wherein the cellulosic wet sheet is permeable to gases and impermeable to liquids;,

(g) in one of the extremities of the wet sheet, applying two rectangles of an absorbent material by pressure, a first of the two rectangles of absorbent material applied to a first

side of the wet sheet and a second of the two rectangles of absorbent material applied to a second side of the wet sheet so as to obtain a semi-rigid end that will not adhere to the drying material;

(h) inserting the extremity in drying equipment through an idling roller and introducing the extremity between two pairs of draining cylinders, and from there to a pair of conveyor belts, pressing the wet sheet between these belts with increasing force (from 0.5 to 8 kgf/cm²) applied by a series of spaced apart small rollers heated by hot water that circulates in the small roller axles; from there it goes to a pair of finishing cylinders, which may or may not be heated, so as to ensure a smooth surface for the membrane;

(i) forwarding the membrane formed by the drying of the wet sheet to a coiling device, where the product is coiled.

The Farah patent discloses preparation of cellulose film comprising steps of preparing a culture medium that involve seeding the medium with acetobacter Xylinum and removing the formed film from the culture medium for dehydration in a distended state (see abstract), which embraces step (c) and (d) of the instant Claim 2. The Farah patent discloses that the film thus prepared is suitable for use as an artificial skin graft, a separating membrane or artificial leather (see abstract), which is within the scope of the cellulose membrane of the instant claims.

The Iguchi et al JP publication also discloses a microorganism producing bacterium cellulose such as acetobacter xylinum, which is culture to form a gel-like membrane containing a bacterium cellulosic polysaccharide (see English Language Abstract), which embraces steps (c) and (d) of instant Claim 2.

Steps (a) and (b) of instant Claim 2 do not indicate novelty since these steps embrace well known procedures for purifying water and allowing the water to cool, Especially when small amounts of the glucose mass (i.e., 0.2%) and yeast extract (i.e., 0.1%) are present in the water.

The instantly claimed process for obtaining a cellulosic membrane from a wet sheet differs from the process of the Farah patent and Iguchi et al publication by claiming a step wherein the cellulose wet sheets are purified and whitened with sodium

lauryl sulfate and claiming a wet sheet drying procedure or apparatus used to dry the cellulosic wet sheet to obtained the cellulose membrane.

The Watanabe et al patent discloses a procedure that involve removing impurities from bacterial cellulose that involve washing, dehydration under pressure, dilute acid washing, alkali washing, bleaching with hypochlorite soda or hydrogen peroxide, lysing with lytic enzymes such as lysozyme, treatment with surfactants such as sodium lauryl sulfate or sodium deoxycholate, washing under heat at a temperature range between a room temperature and 200° C., and any combination of these treatments (see column 8, lines 24-31). This description of the Watanabe et al patent embraces step (f) of instant Claim 2.

The Greene patent discloses a cellulose film drying process and apparatus (see title and specification), which suggests that the instantly claimed apparatus used to carry out the instantly claimed process for obtaining cellulosic membrane from a wet sheet is known in the art.

Applicant also amended the Claim 2 to indicate that the cellulose material is permeable to gases and impermeable to liquids.

The Beaupre et al patent shows that cellulose materials that are permeable to gases and impermeable to liquids is well known in the art by disclosing membranes used to separate gas from solvent wherein the membrane may be selected from a group that includes cellulose acetate membrane and hydrolyzed cellulose membrane (see title and column 1, 4th paragraph), which suggests that it would be obvious to modify the films of the Farah et al patent or the membrane of the Iguchi et al publication to be impermeable to liquids and permeable to gases.

One of ordinary skill in this art would be motivated to combine the teachings of the Farah patent and Iguchi et al publication with the teaching of the Kane, Greene and Beaupre et al patents to reject the instant claims under 35 U.S.C. 103 since each of the documents discloses treatments of cellulosic films, sheets and/or membranes that may be used in one or more of the applications recited in instant Claim 21.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the film drying procedure used in the preparation of

the cellulose film of the Farah patent or incorporate into the process for obtaining a cellulosic membrane of the Iguchi et al publication with the sodium lauryl sulfate treatment, film drying process and the gas permeable and solvent impermeable cellulose materials of the Kane, Greene, or Beaupre et al patents in view of the recognition in the art, as evidenced by the Greene patent, that the process and apparatus thereof is effective for drying a transversely shrinkable, nonfibrous, cellulosic film while minimizing such shrinkage in order to produce a nonoriented film having substantially the same wrapping, stretch and dimensional characteristics both laterally and longitudinally. The Beaupre et al patent suggests that cellulose materials are effective as gas permeable and solvent impermeable membranes.

6. Applicant's arguments with respect to Claims 2, 18, 19 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Summary

7. Claims 2, 18, 19 and 21 are rejected; Claims 1 and 3-17 are withdrawn from consideration as being directed to non-elected inventions.

Examiner's Telephone Number, Fax Number, and Other Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Everett White/
Examiner, Art Unit 1623

/Shaojia Anna Jiang/
Supervisory Patent Examiner, Art Unit 1623